

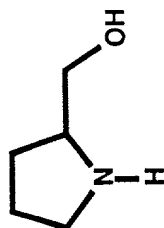
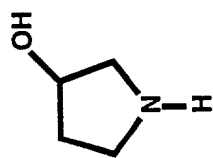
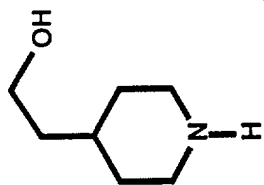
FIGURE 1

5'-GAAACTGGACAGCACAGACTTCACCA(G)GCACCATCAAGCTGCTGAATGAAAAT
TCATATGTCCCTCGTGAG-3' (71 bp) (SEQ ID 1)
3'-CTTTGACCTGTCGTGTCTGAAGTGGT(C)CGTGGTAGTTCGACGACTTACTTTTAA
GTATACAGGGAGCACTC-5' (SEQ ID 2)

5'-CCTGAAGAGAAAGTTGTCGGAGAACTGGACAGCACAGACTTCACCA(G)GCA
CCATCAAGCTGCTGAA-3' (67 bp) (SEQ ID 3)
3'-GGACAACTCTTTCAACAGCCTCTTTGACCTGTCGTGTCTGAAGTGGT(C)CGTG
GTAGTTCGACGACTT-5' (SEQ ID 4)

5'-CCTGAAGAGAAAGTTGTCGGAGAACTGGACAGCACAGACTTCACA(G)GCACCA
TCAAGCTGCTGAATG-3' (68 bp) (SEQ ID 5)
3'-GACAACTCTTTCAACAGCCTCTTTGACCTGTCGTGTCTGAAGTGGT(C)CGTGGT
AGTTCGACGACTTAC-5' (SEQ ID 6)

Figure 2



T*

C*

G*

A*

T*

C*

G*

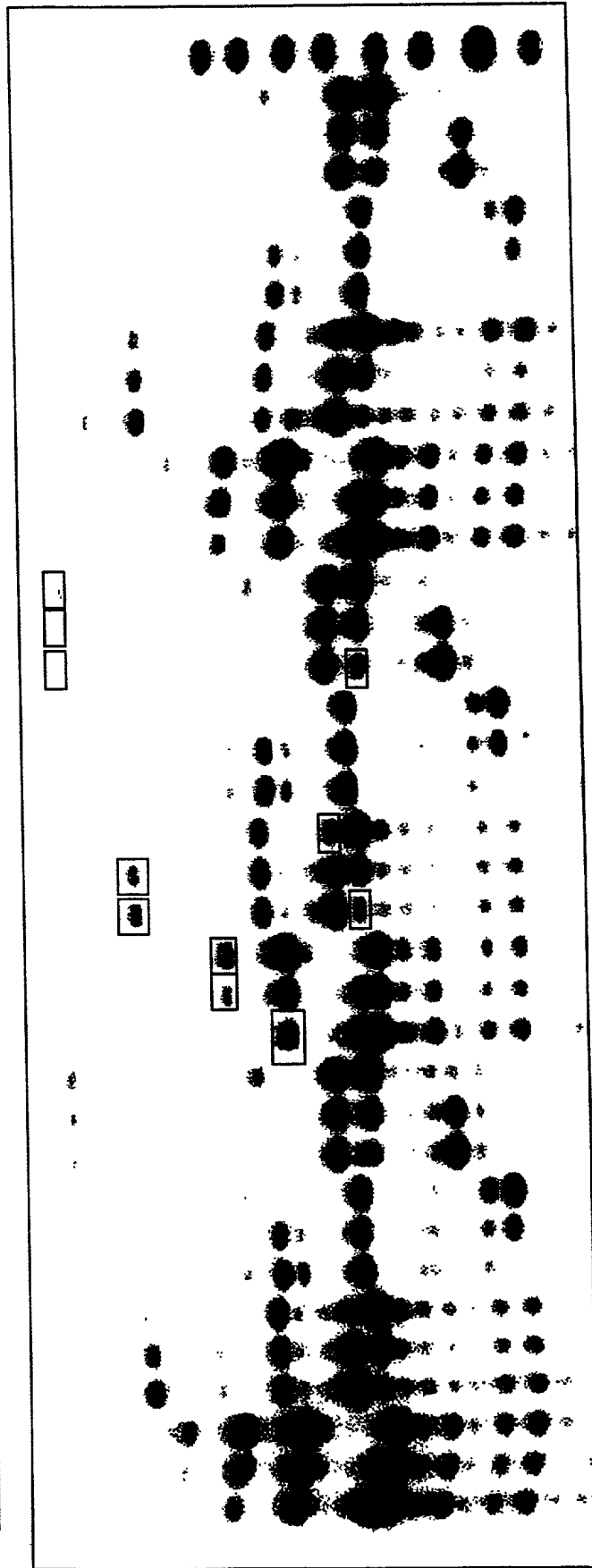
A*

T*

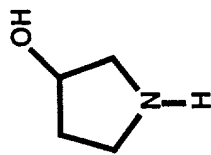
C*

G*

A*



1.46 M



98 °C
1 hr

Figure 3

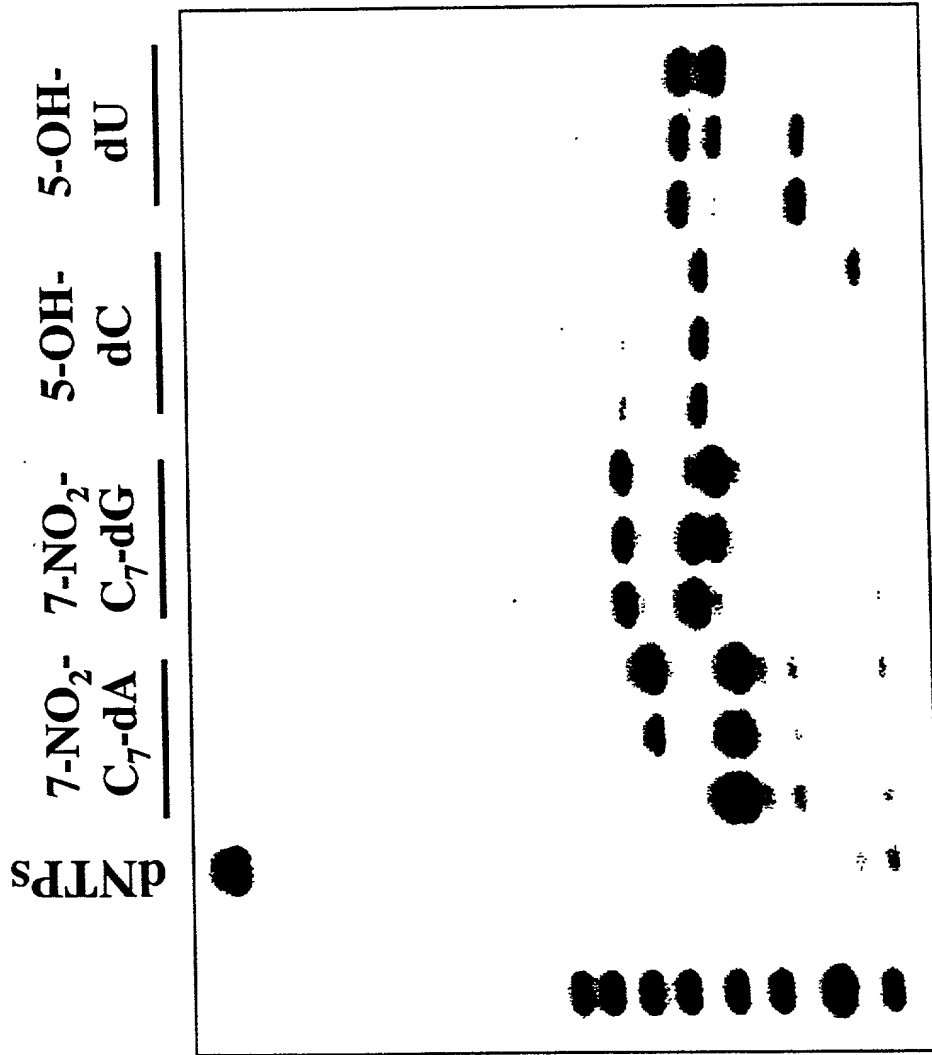
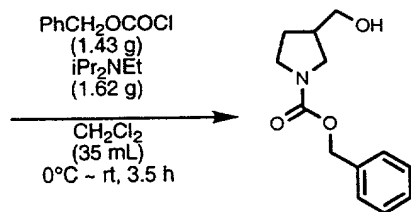
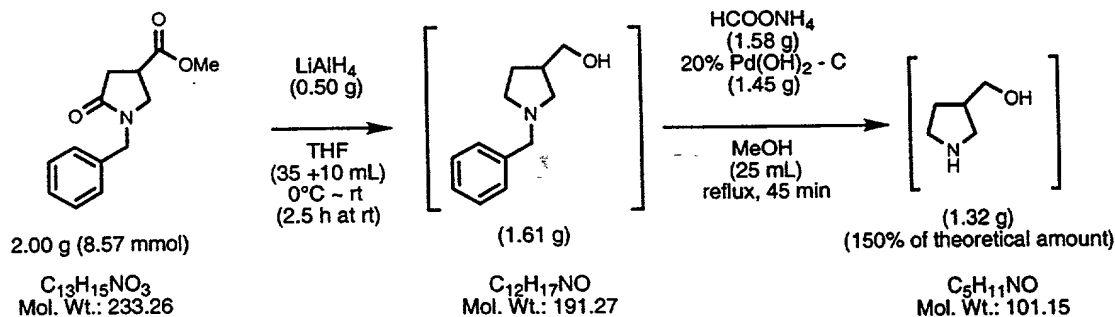
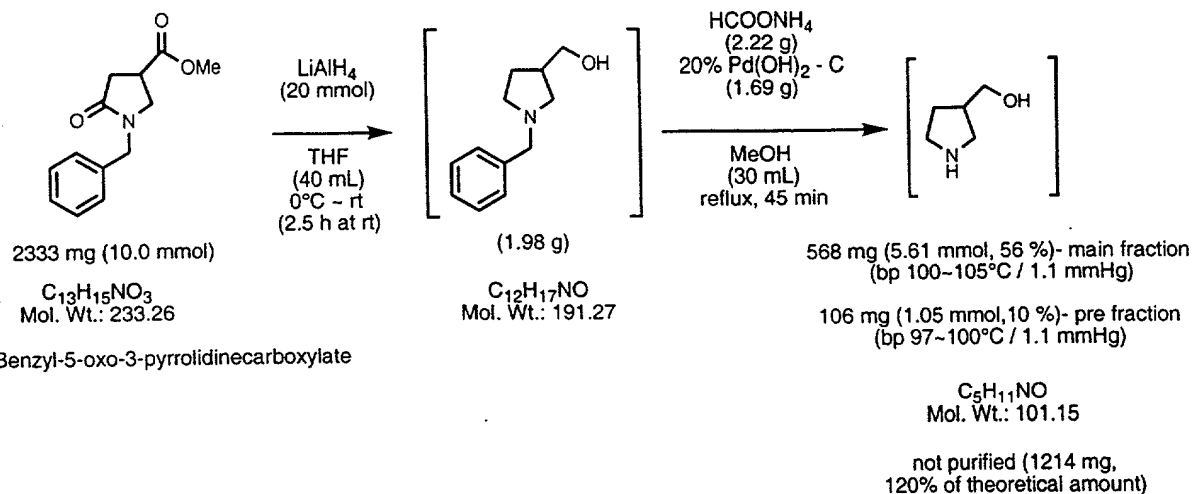


Figure 4



674 mg
 (2.86 mmol)
 33% yield in 3 steps
 (one chromatographic purification)
 [SiO₂ flash column (AcOEt: Hex = 1 : 1 ~ 2 : 1)]
 $C_{13}H_{17}NO_3$
 Mol. Wt.: 235.28

Figure 5

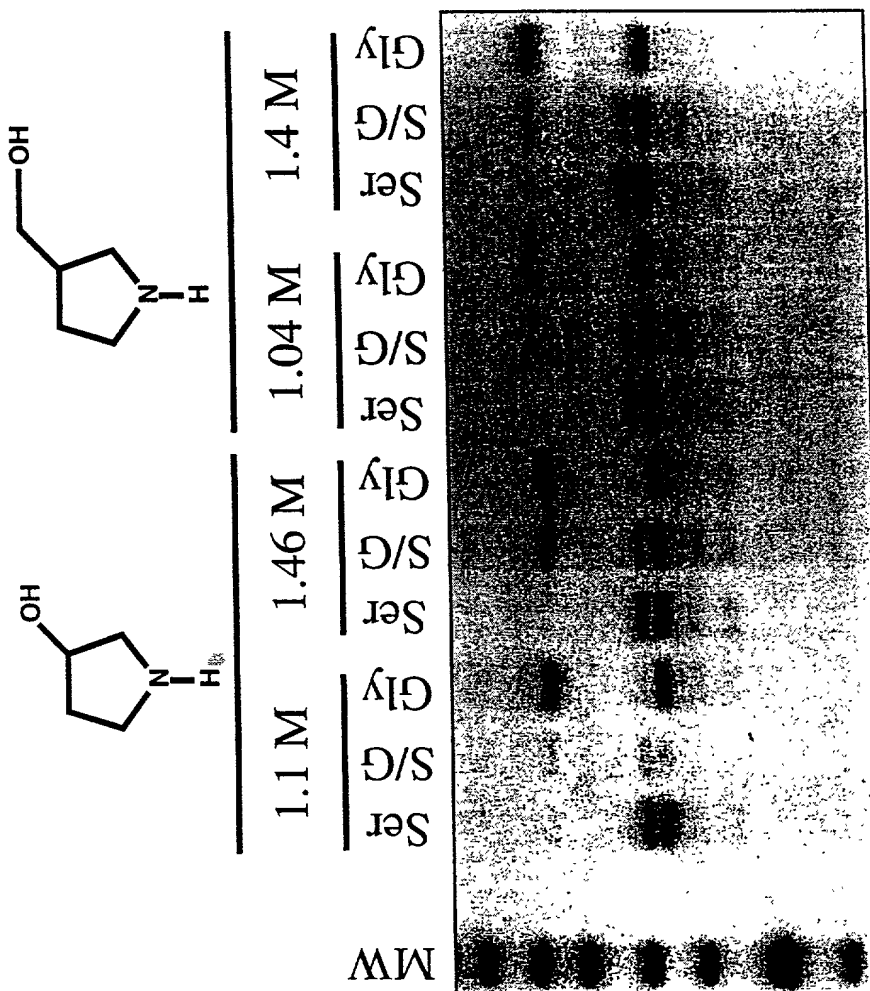


Fig. 6

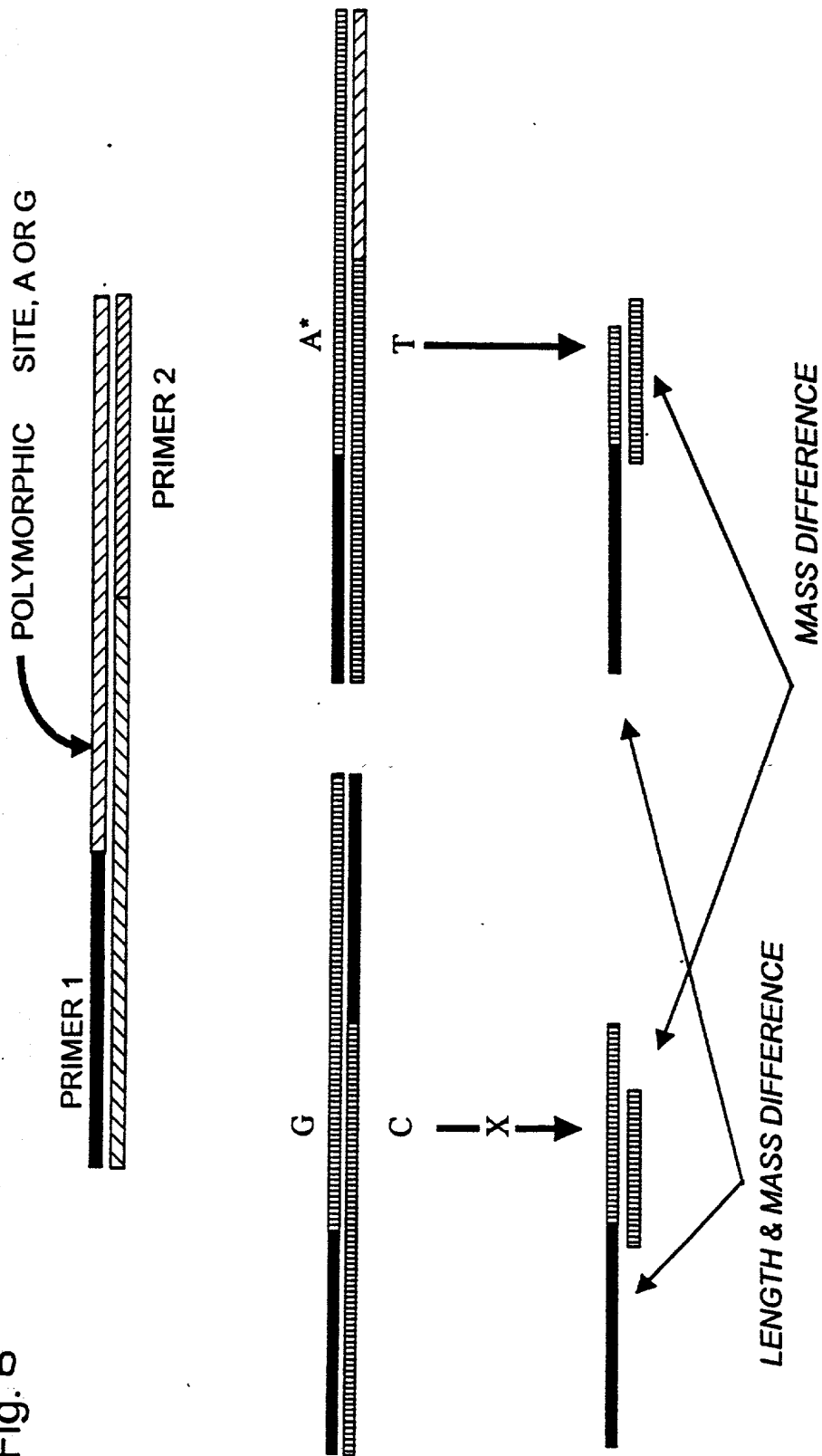
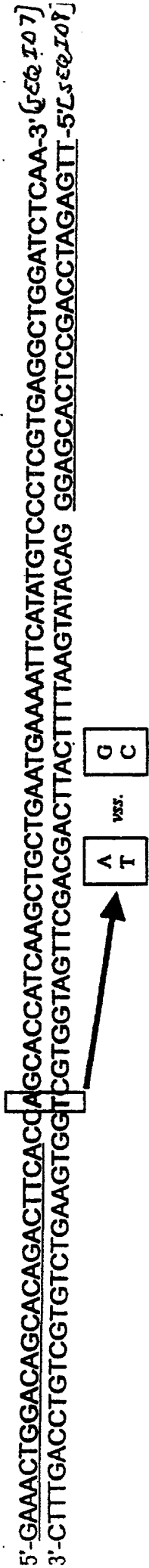
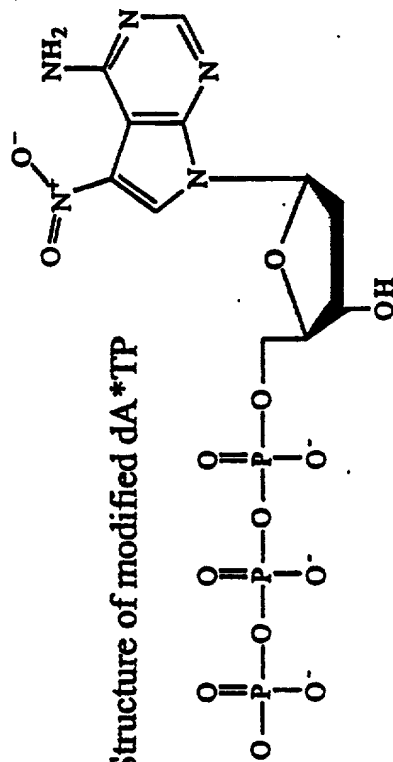


Fig. 7

7(a)



Structure of modified dA*TP



AmpliTaq Gold	0.1 unit/ml
modified-dA*TP	0.2 mM
dCTP, dGTP, dTTP	0.2 mM

Fig. 7(b)

<u>Sequence</u>	<u>Length</u>	<u>MW</u>	<u>Δ MW</u>
$\left\{ \begin{array}{l} 5'-\text{GAAACTGGACAGCACAGACTTCACCC} \text{ (55 nt)} \\ \text{or} \\ 5'-\text{GAAACTGGACAGCACAGACTTCACCGGC} \text{ (55 nt)} \end{array} \right\}$	25nt	8057	948 Da
	28nt	9005	
GGGAGCACTCCGACCTAGAGTT-5' (55 nt)	22nt	7189	
CCGTCGTCGTCGTC-5' (55 nt)	13nt	4441	
$\left\{ \begin{array}{l} \text{GTGGTCGTCGT-5' (55 nt)} \\ \text{or} \\ \text{GTGGCCGTCGT-5' (55 nt)} \end{array} \right\}$	11nt	3927	15 Da
	11nt	3912	
5'-TGTCCTCGTG (55 nt)	11nt	3807	

Fig. 8

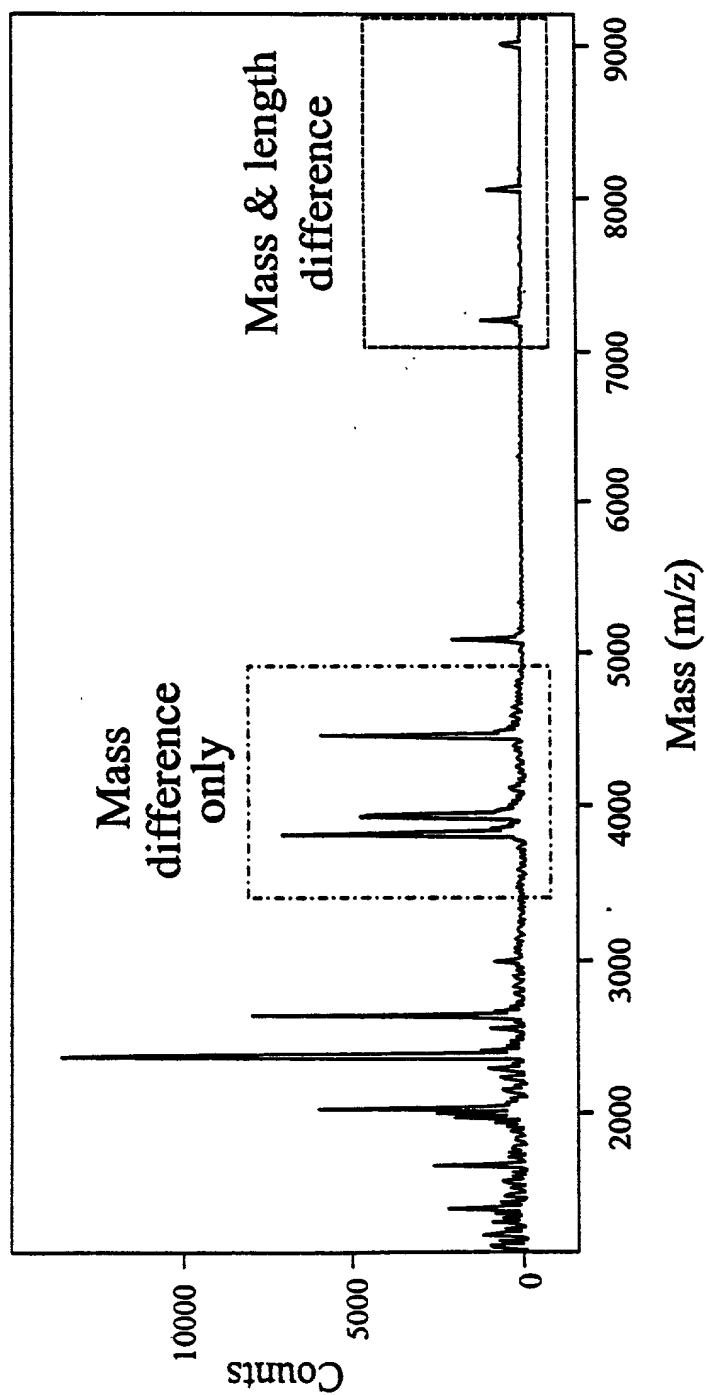


Fig. 9

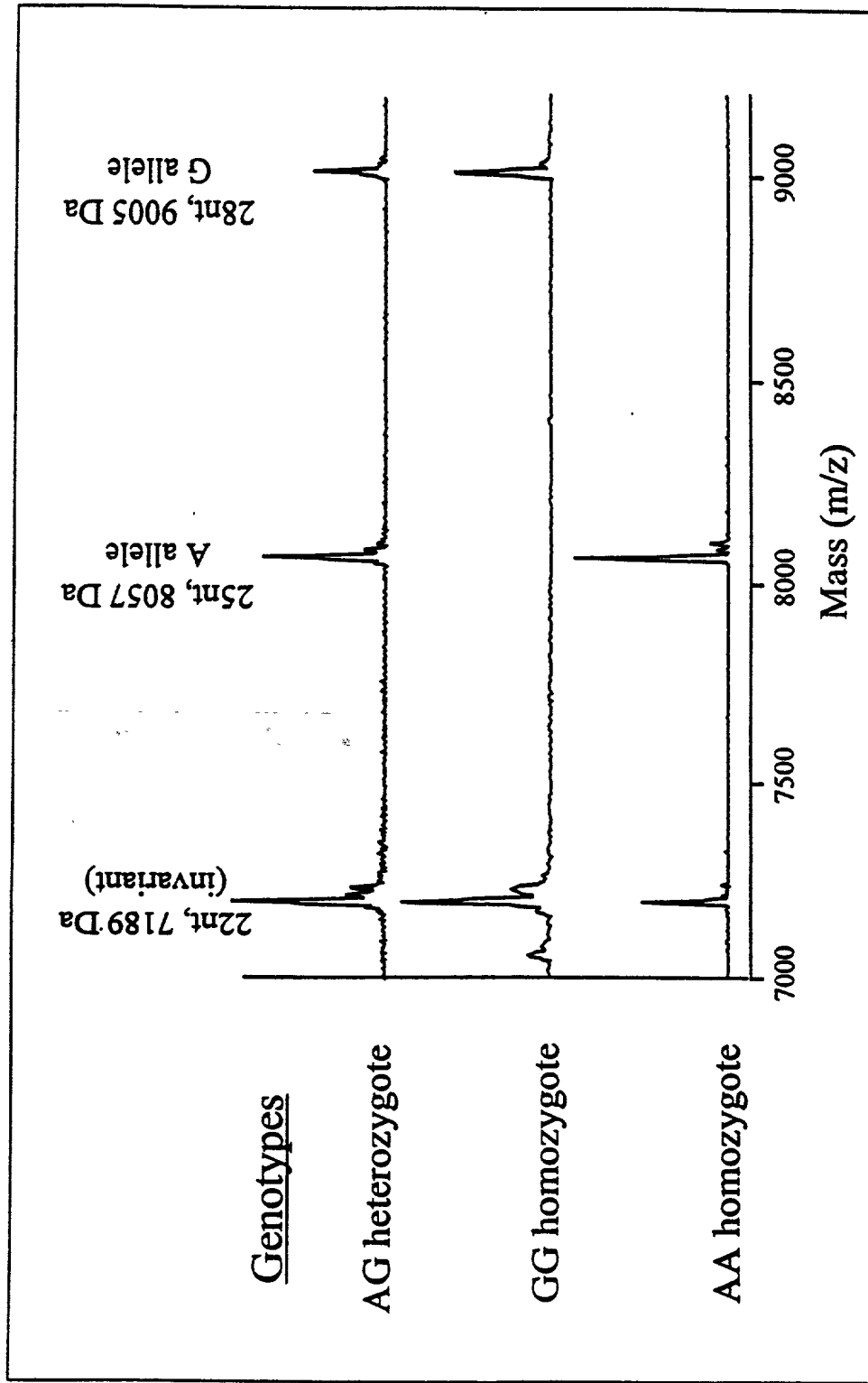
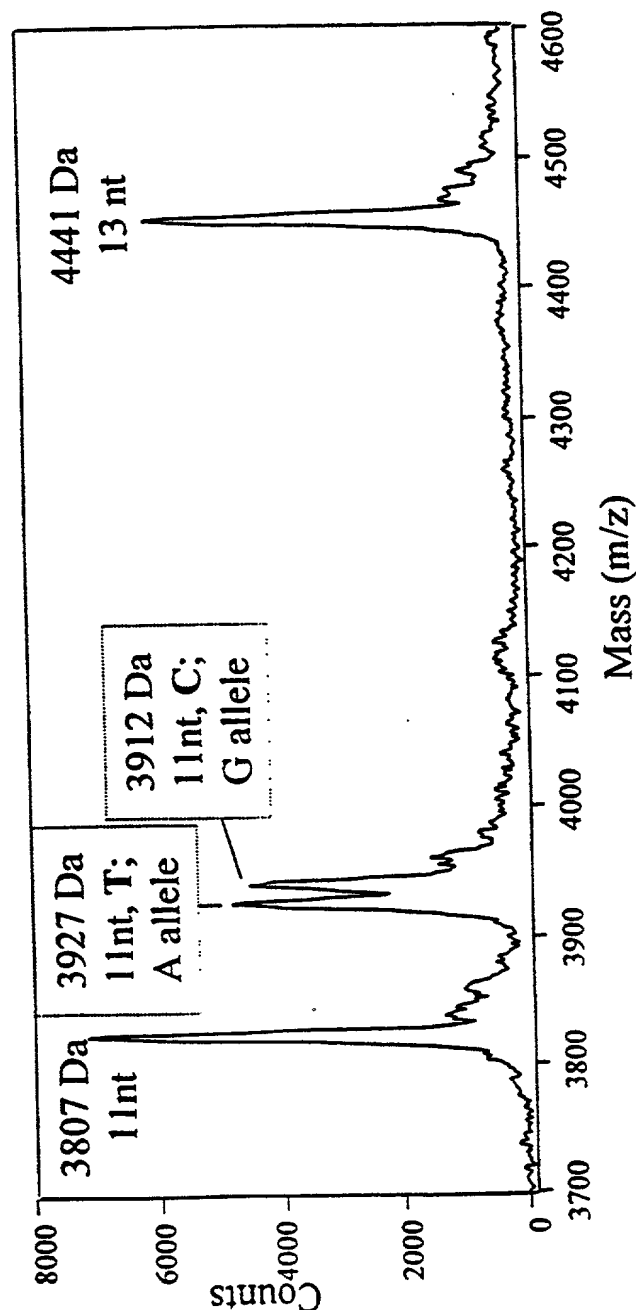
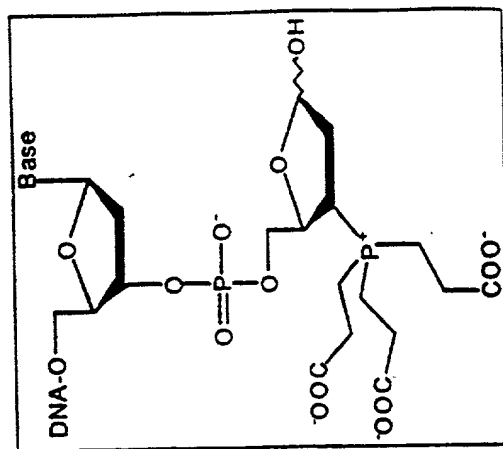


Figure 10. Genotyping by mass spectrometry: detection of mass differences

(a) MALDI-TOF analysis of heterozygote sample:
chemically restricted internal fragments provide confirmation



(b) Proposed structure
of the cleavage product



Mass sepctrum of a heterozygote sample in the region
of 3700-4600 daltons

Fig. 11

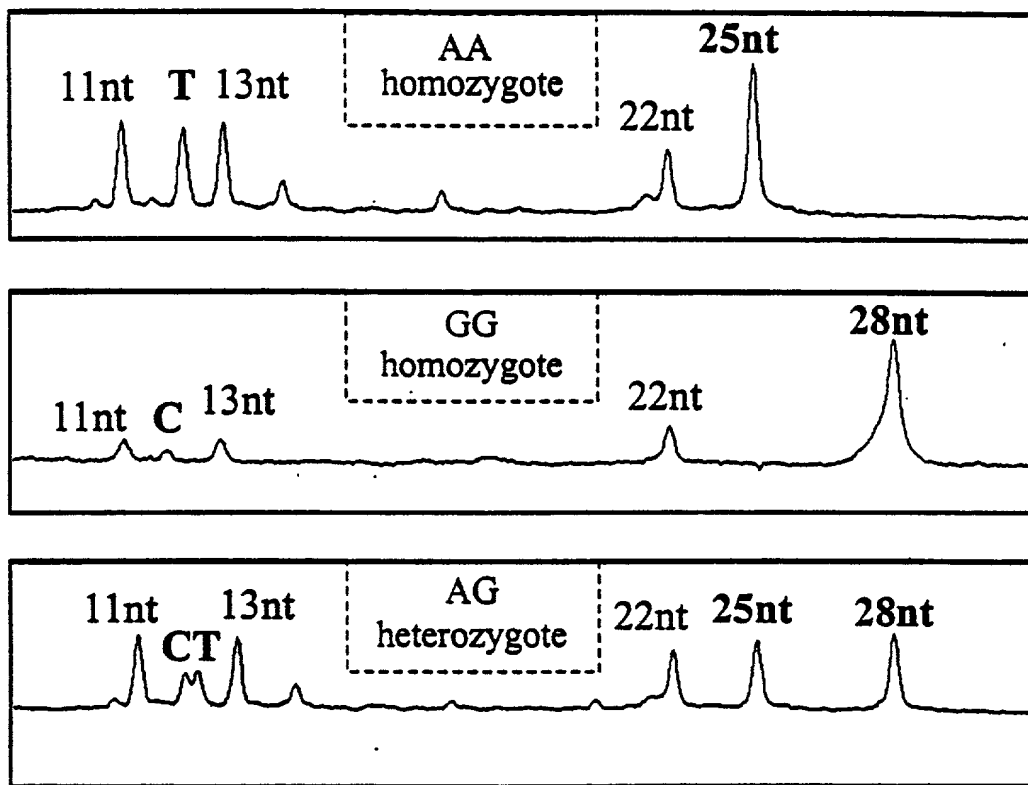
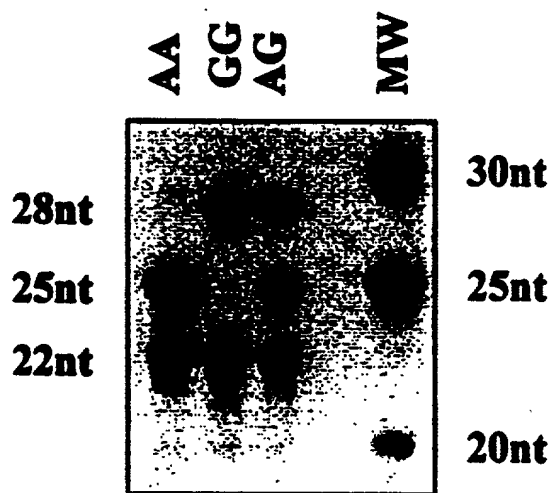


Fig. 12



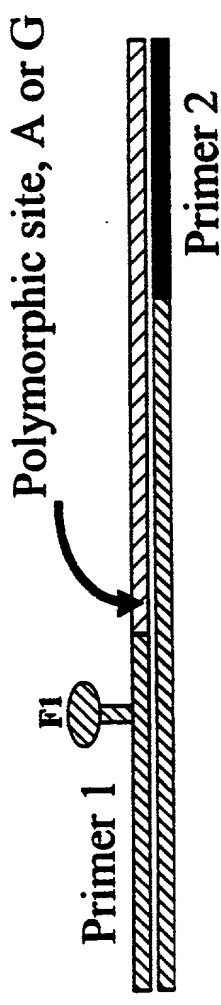


Fig. 13 (a)



Fig. 13 (b)

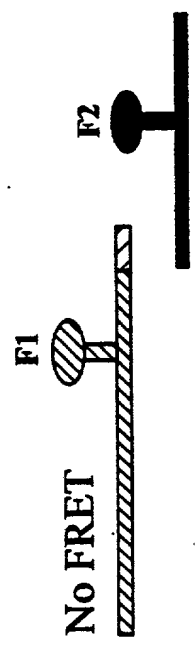


fig. 13 (c)



Fig. 13 (d)